

AN ARCHAEOLOGICAL SURVEY FOR THE
PARKER COUNTY SPECIAL UTILITY DISTRICT
WATER SYSTEM IMPROVEMENTS IN PARKER COUNTY, TEXAS

Antiquities Permit 6095



By

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PARKER COUNTY SPECIAL UTILITY DISTRICT
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BVRA Project Number 11-13

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ABSTRACT

The Parker County Special Utility District (SUD) in central Parker County, Texas plans to install a six-inch water line that will serve its customers. The length of the water line will be 7300 feet with an easement of 15 feet (2.51 acres). In response to a request by the Texas Historical Commission (THC), an archaeological survey was performed by Brazos Valley Research Associates (BVRA) on November 22 and 23, 2011 under Antiquities Permit 6095. This investigation consisted of a Pedestrian Survey and shovel testing on both banks of Grindstone Creek, the only stream in the Area of Potential Effect (APE). No prehistoric or historic sites were identified, and it was recommended that construction be allowed to proceed as planned. Fairview Cemetery (PR C079) is a historic cemetery owned by the Church of Christ that is located at least 200 feet from the route of the proposed water line. Therefore, it will not be affected. Copies of the report are on file at the THC, Texas Archeological Research Laboratory (TARL), BVRA, the Texas State Library, Parker County SUD, and Jacob & Martin, Ltd.

ACKNOWLEDGMENTS

I am grateful to following individuals for their participation in this project. Derek Turner and Alex Castillo (engineers at Jacob & Martin, LTD), and Derrad Dickson, General Manager of the Parker County SUD, provided maps and logistical support. Jean Hughes, Assistant Curator of Records at TARL, checked the site files at TARL for previously recorded sites in the project area. Jesse Todd of AJ Consulting is an archaeologist with considerable experience in Parker County, and he took time from his busy schedule to discuss the project and offer advice. Chance Robinson of the Natural Resources Conservation Service (NRCS) field office in Bryan, Texas analyzed soil samples from the shovel tests. Information regarding Fairview Cemetery was provided by Kathleen Poznick (Reference Librarian at the Weatherford Public Library) and Howard Ford (current caretaker of the cemetery). The figures were drafted by Lili G. Lyddon of LL Technical Services who also edited the report.

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INTRODUCTION

Parker County SUD plans to construct a six-inch water line in rural central Parker County (Figure 1). When completed, there will be approximately 7300 linear feet of treated six-inch water line added into the Parker County SUD water distribution system. The proposed water line will connect two existing water lines and serve approximately twenty-five customers. The pipe will be placed in a trench three feet deep and two feet wide, and the easement is fifteen feet. Grindstone Creek is the only stream crossing, and the pipe will pass beneath it at a depth of about three feet using the technique of horizontal directional boring. The entry point will be on the southeast bank, and the exit point will be on the northwest bank, and both points will be about fifty feet from the bank of the creek. The entire water line will be on private property and will be between twenty and thirty feet from the road. As currently proposed, the new pipe will parallel the west side of Sandy Hill Lane and south side of Fairview Road. The engineering firm creating the plans for this project is Jacob & Martin, Ltd. of Weatherford, Texas. A loan was made from the United States Department of Agriculture, Rural Development, and Kerry Elder is the representative for that agency. The project area investigated is depicted on the USGS 7.5' topographic quadrangle Brock (3297-323) (Figure 2).

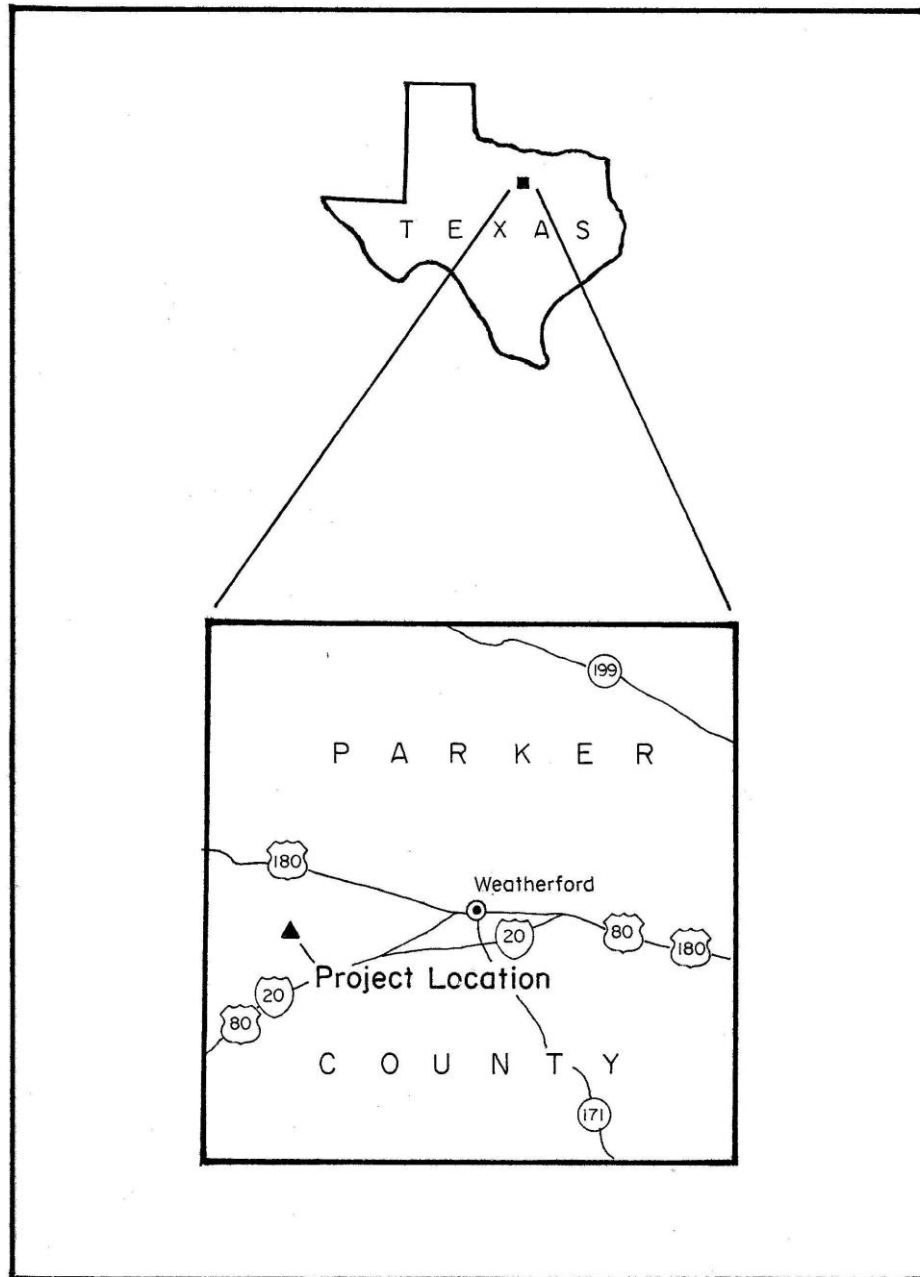


Figure 1. General Location of Project Area

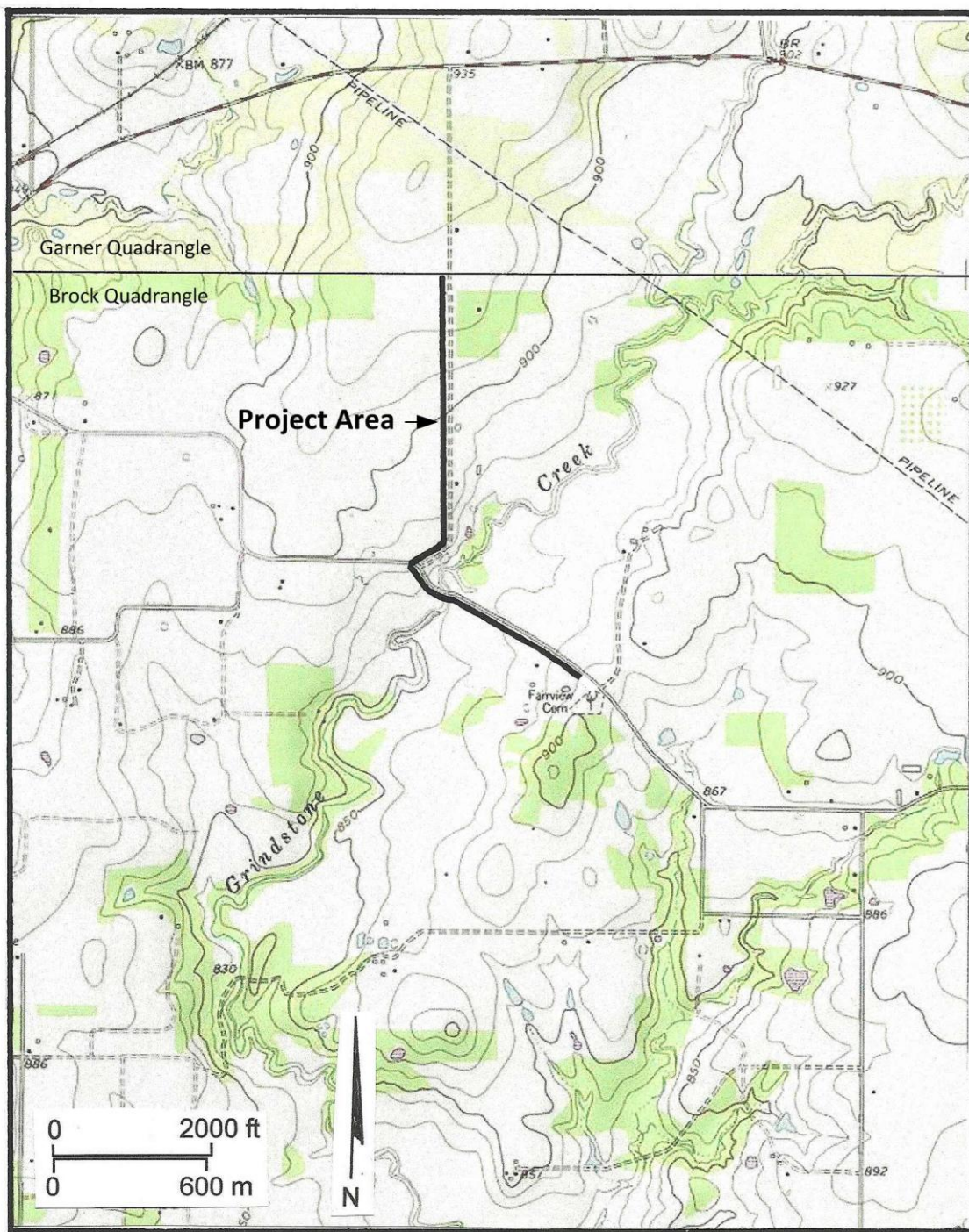


Figure 2. Project Area on Topographic Quadrangle Brock

ENVIRONMENT

Parker County is located in an upland setting in North Central Texas and covers an area of 902 square miles of undulating to hilly land with elevations that range from 700 to 1200 feet above mean sea level (Dyksterhuis 1948). It is bounded on the north and northwest by Wise and Jack counties, on the south and southeast by Hood and Johnson counties, on the east by Tarrant County, and on the west by Palo Pinto County. Part of the county is in the Western Cross Timbers and the remainder is within what is referred to as the Grand Prairie. Temperatures range from an average high of 96° Fahrenheit in July to an average low of 34° Fahrenheit in January. Rainfall averages slightly more than thirty-two inches a year, and the average growing season lasts 225 days. The various streams in the county flow to the south and drain into the Brazos River, the Clear Fork of the Trinity River, and the upper tributaries of the Trinity River. The only stream in the APE is Grindstone Creek. Figure 3 is a view of this creek looking to the southwest from Fairview Road. Major vegetation in Parker County is composed of tall grasses, mesquite, and oak. The predominant soil type in the area is sandy loam. Underlying the soils in much of the county is bedrock of the Lower Cretaceous Paluxy Formation and Pleistocene clays. The major type of bedrock is sandstone, but limestone and mudstone beds are also present.

According to the soil survey for Parker County (Greenwade, et al. 1977), the soil on the west bank of the creek consists of eroded Chaney loam sand, 4 to 5% slopes (ChC2), and the soil on the east bank is described as Bunyan fine sandy loam (Bu). Bunyan soil floods on occasion, but Chaney soils are not prone to flooding. The A-horizon of Bunyan soils consists of fine sandy loam from 0-10 cm, and the B-horizon is sandy clay loam from 10-20 cm. The A-horizon of Chaney soils is loamy fine sand from 0-16 cm, and the B-horizon is red sandy clay. The soil samples collected from shovel tests in the project area were analyzed by a soil scientist from the NRCS field office in Bryan, Texas. His findings have been incorporated into the *Results and Conclusions* section of this report and Appendix I.



Figure 3. Grindstone Creek

METHODS

Prior to the field survey, Jean Hughes checked the site records at TARL for the presence of previously recorded sites in the project area. In addition, the Texas Archeological Sites Atlas was checked for known cultural resources in the project area and to identify the kinds of sites known to exist in the county. The Parker County soil survey (Greenwade et al. 1977) was used to identify the types of soils in the project area, and soil samples from four of the shovel tests were taken to the NRCS field office in Bryan for analysis. Information regarding Fairview Cemetery was provided by Kathleen Poznick and Howard Ford. The field survey was conducted by J. Randy Ferguson on November 22 and 23, 2011. His methods consisted of a Pedestrian Survey and shovel testing. Six tests were excavated, and they ranged in depth from 73 cm to 100 cm. Four tests were inside the fence line on private property. Shovel tests 5 and 6 were excavated on the opposite side of the fence because landowner permission had not been obtained to dig in this area. Because of the extensive disturbance on both sides of the creek, more than one test was not considered necessary in the disturbed areas. Dirt was screened using ¼ inch hardware cloth. Shovel test data were recorded on a shovel test log (Appendix I). One of the shovel tests is illustrated in Figure 4, and the approximate location of the shovel tests is presented in Figure 5. In addition, the project was documented by a hand-held GPS, digital photography, and field notes.



Figure 4. Shovel Test 4

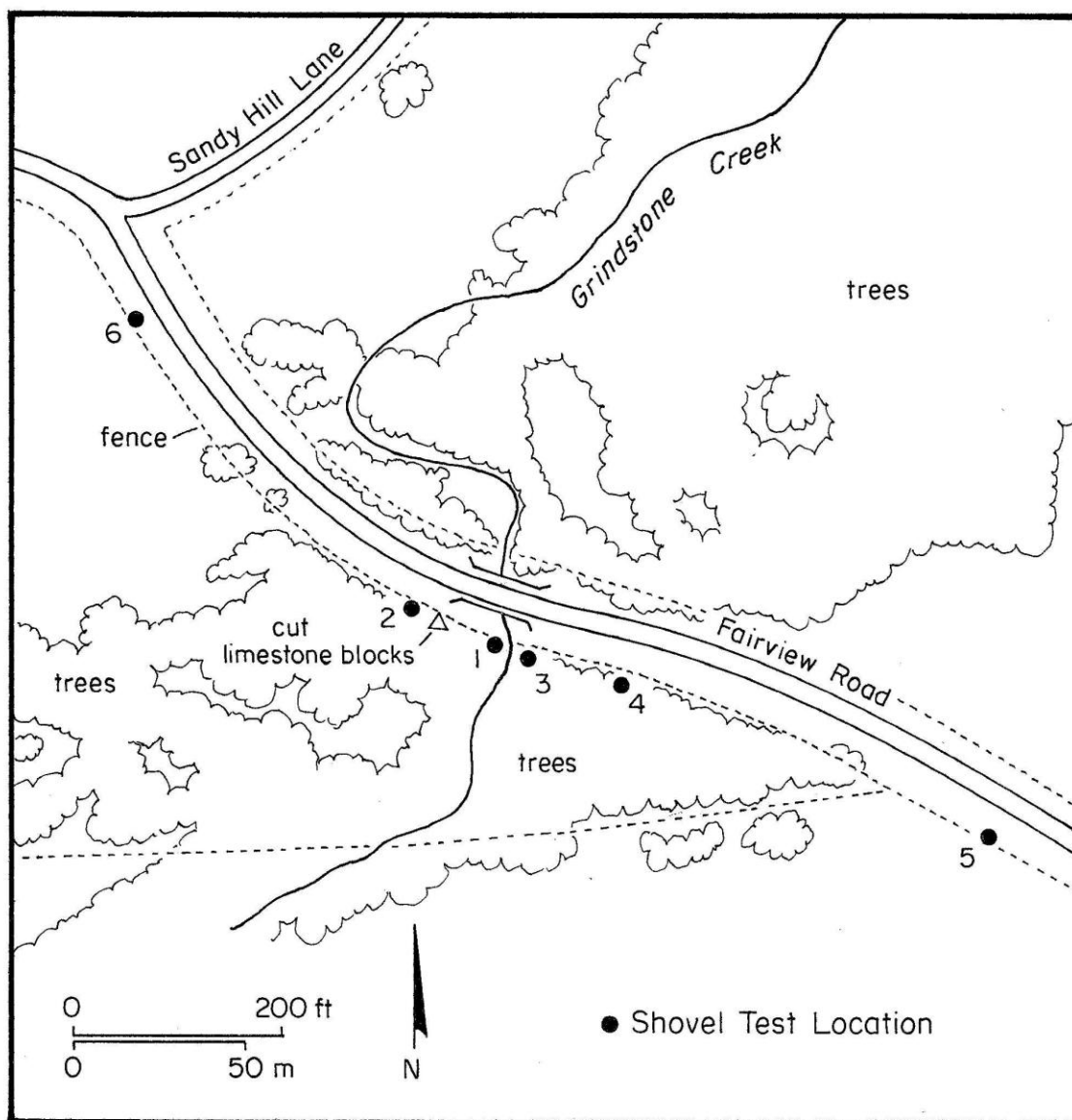


Figure 5. Shovel Test Map

ARCHAEOLOGICAL BACKGROUND

General

The project area is located in the North Central Texas Region as defined by Biesaat et al. (1985:76) in a statistical overview published by the Texas Historical Commission (Figure 6). This is an area well documented in terms of numbers of sites when compared to other regions in Texas. When the statistical overview was compiled in 1985, there were 2678 known sites (13.25% of the state) in the entire region. Only one other region (Central Texas) reported more sites or had a higher percentage statewide. In terms of county statistics; however, only Jack County had fewer recorded sites ($n=2$) and Madison County was tied with three sites. At the present time the total number of recorded archaeological sites, prehistoric and historic, is 150. Since the statistical overview is no longer being compiled, it is not possible to state what percentage of the total site number is prehistoric. According to Biesaat et al. (1985:174), only one site had been described as belonging to a specific period (Late Prehistoric). Site disturbance in 1985 consisted of erosion, construction, and vandalism. One site had been tested by hand. The overview does not provide site numbers. The reader is referred to the overview for more statistical information concerning Parker County and its relation to the rest of Texas.

Previous Investigations

There have been no major archaeological investigations in Parker County. Most of the work has been performed by contract archaeologists associated with private firms and archaeologists working for state and federal agencies. The nearest recorded sites are 41PR112 and 41PR113, and they were recorded by archaeologists from TAS, Inc. during a pipeline survey conducted in 2006 and 2007 (Turner and Smart 2007). Site 41PR112 is a small burned rock midden that yielded numerous flakes, two small projectile point fragments, and biface fragments. Cultural materials were found to a depth of 50 centimeters. Site 41PR113 is a prehistoric site that is described on the site form as “unknown prehistoric.” Artifacts recovered include a *Gary* dart point, chert flakes, and an abrading stone fragment. The recorders date this site to the Middle Archaic of Texas prehistory. This is a shallow site with all cultural materials found between 0 and 40 cm.

Archaeological studies associated with reservoir construction have been carried out in the general area. The three reservoirs nearest the current project area are Squaw Creek Reservoir in Hood and Somervell counties (Skinner and Humphreys 1973), Joe Pool Lake in Dallas, Ellis, and Tarrant counties (Moir et al. 1988), and Possum Kingdom Lake in Palo Pinto and Young counties. The Works Progress Administration was responsible for the work at Possum Kingdom Lake. Jean Hughes (personal communication) stated that no formal report was written for this project.

Prehistoric Chronology

According to Krieger (1946), the cultural patterns in this region tend to mirror those found to the east more than those identified farther west in the high plains of the Llano Estacado. Since no defined culture sequence has been established for the Lower Plains cultural unit, researchers are forced to borrow the sequences defined in nearby regions such as Central Texas or North Central Texas. Cultural chronologies for the North Central Texas area have been presented by Brown (1987), Krieger (1946), Prikryl (1987), and Skinner and Gallagher (1974). Chronologies for Central Texas have been prepared by Prewitt (1981, 1985) and Carlson et al. (1986). Although there is some difference in the terminology used by these researchers, they all agree that the last 10,000 to 12,000 years of prehistory and history for the area can be divided into four major temporal periods. These are Paleo-Indian (12,000 B.P. to 8000 B.P.); Archaic (8000 B.P. to 1250 B.P.); Late Prehistoric (1250 B.P. to 300 B.P.); and Historic (300 B.P. to Present).

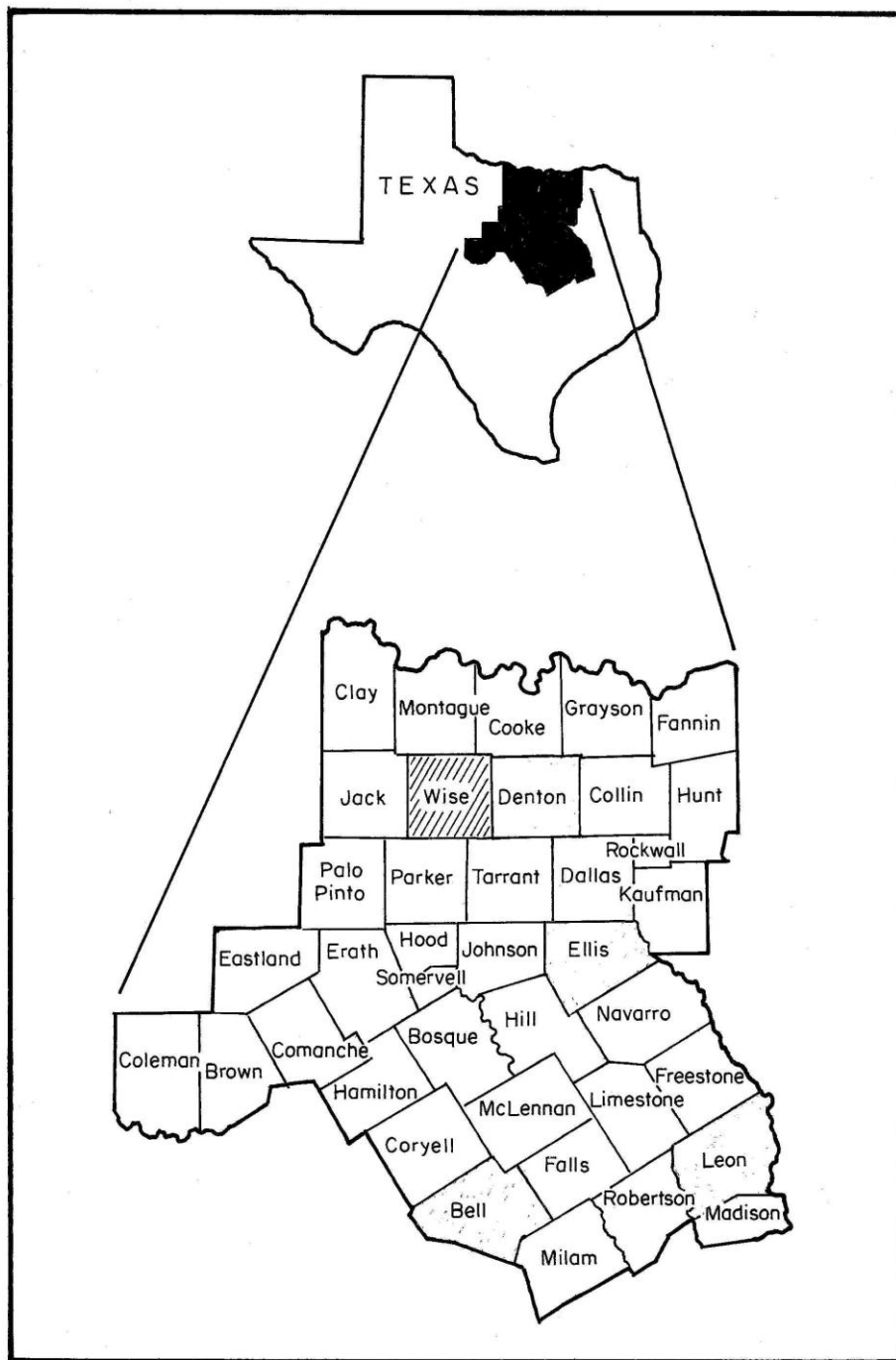


Figure 6. North Central Texas Archaeological Region

Historic Chronology

Parts of the area now known as Parker County were under Spanish or Mexican rule, and no effort was made to colonize the area even though parts of the county were part of an early land grant awarded to Stephen F. Austin and Samuel May Williams. The area was inhabited by bands of Comanche and Kiowa who resisted the influx of European settlers for about seventy years. Early immigration began in the early 1850s due to an outbreak of malaria in nearby Denton, Collin, and Tarrant counties and the establishment of the Butterfield Overland Mail route in 1855. Some of the first settlers used Indian trails to reach their destination. Under the leadership of State Legislator Isaac Parker, 224 settlers in the area signed a petition requesting the establishment of a new county and in December of 1855 the state legislature formed Parker County from Bosque and Navarro counties (Moore 1975) with Weatherford the county seat. By 1860, 4213 people lived in the county. During the Civil War, the population declined and that disrupted the local economy until the 1870s when the last Indian raid occurred and thousands of new people moved to the county. The county's population and economy continued to expand during most of the late nineteenth century, encouraged by the construction of railroads that linked the area to national markets, attracted newcomers, and led to the establishment of new farms and communities. During the latter part of the 19th century, agriculture consisted of cotton and corn and cattle production also played an important part of the local economy.

Local farmers diversified in the years following World War II and peanuts and hay became major components of the county's agricultural economy. By the 1960s, Parker County was one of the leading producers of vegetables, some fruit, and livestock. By 1960, the population had increased to 22,881. During the 1960s, the construction of Interstate Highway 20 played a major role in encouraging new residents to move to the area. Significant production of oil began in the county after 1966, and in 1973 almost 823,000 barrels of crude oil were produced there. Other new industries included dairy farming, sheep ranching, and the production of poultry. Parker County continued to develop during the 1970s and 1980s. The number of workers employed in light industries climbed from 2836 in 1970 to 5917 in 1980. As increasing numbers of people moved to the area to commute to Fort Worth, the population rose to 44,609 by 1980 and 64,785 by 1990.

The above information regarding the historic chronology was taken from works by Clements (1984), Gustavus (1931), Jordan (1935), the Parker County Historical Commission (1980), and Kathleen and Clifton St. Clair (1982). Additional information was obtained from an article by David Minor in the Handbook of Texas Online.

RESULTS AND CONCLUSIONS

Two prehistoric sites (41PR112 and 41PR113) are in the area, but they will not be affected by the proposed construction. Fairview Cemetery is also nearby, but the water line as currently proposed ends approximately 200 feet from this site (Figure 7). The Church of Christ that owns this cemetery has records of all modern burials, and not one is outside the fence. No cultural resources within the project area were found. A pile of cut limestone rock was observed (Figure 8). According to Howard Ford, cut limestone blocks were used in the construction of the new bridge over the creek, and this pile represents blocks that were never used. Disturbance observed consist of multiple layers of fill from overbank deposits and excavation associated with widening of the stream channel on the west bank of the creek. This disturbance was found to reach 90 cm below the existing ground surface. Shovel Test 1 was dug on the west bank of the creek in disturbed fill. This soil was probably overbank or flood deposited, as it was very inconsistent in color and consistency. Shovel Test 3 was dug on the east bank of the creek and also consisted of disturbed fill. Neither area appeared to have intact soils, and there was a significant amount of dredge spoil on top of the overbank/flood deposit. These soils represent significant disturbance to the two banks of the creek. The rest of the soils changed with distance from the creek and graded from fine sandy loam to loam (Shovel Test 4), clay loam (Shovel Test 5), and sandy clay loam (Shovel Test 6).



Figure 7. Fairview Cemetery



Figure 8. Cut Limestone Blocks from Bridge Construction

RECOMMENDATIONS

No evidence of a prehistoric or historic site was found as a result of this survey, and it is recommended that construction be allowed to proceed as planned. Since the fenced boundary of the cemetery is at least 200 feet from the proposed water line, scraping for unmarked graves is not necessary. Should evidence of an archaeological site be encountered during the construction, all work must stop until the THC can evaluate the situation. Also, if new areas are added, the THC must be notified in case additional archaeological survey is needed. This survey was conducted in accordance with the Minimum Survey Standards as outlined by the THC.

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Appendix I. SHOVEL TEST LOG

PARKER COUNTY SPECIAL UTILITY DISTRICT

WATER IMPROVEMENT PROJECT

Test	Area*	Depth	Comments
1	B	90 cm	Entire area consists of overbank deposits with clay and trash throughout.
2	B	100 cm	0-33 cm (dark yellowish-brown disturbed sandy loam) 33-100 cm (fine sandy loam with few gravels) 10YR 4/3
3	A	90 cm	multiple layers of fill from overbank and widening of stream channel throughout
4	A	73 cm	0-40 cm (highly disturbed, sandy loam) 40-73 cm (dark yellowish-brown loam) 10YR 3/3
5	A	85 cm	0-14 cm (disturbed sand and clay) 14-65 cm (fine sandy loam) 7.5YR 4/4 65-85 cm (brown clay loam) 10YR 5/8
6	B	25 cm	0-5 cm (disturbed clay) 5-25 cm (sandy clay loam) 10YR 4/6

Area A = southeast bank of creek

Area B = northwest bank of creek